

**Amendment and Request Continued Examination  
Dated October 3, 2005**

**Appl. No. 10/053,482**

## **REMARKS**

This Amendment ("Amendment") is in response to the April 1, 2005 Office Action ("Office Action"). Claims 1-83 are pending; claims 34-38 and 66-67, drawn to a kit, were previously withdrawn from consideration, as non-elected group II; claims 39-65, directed to methods of measuring enzymatic activity, were previously withdrawn from consideration, as non-elected group III. Claims 34-37 and 66 have been cancelled. New claims 79-83 have been added. The number of claims added (5) is equal to the number cancelled (5), and thus, no additional claim fee is believed to be required with this filing.

Applicant notes that claims 75-78 are dependent claims on withdrawn claims 41 or 45, and are also directed to methods of measuring enzymatic activity. Claims 75-78 are believed to be included in Group III, not Group I as stated in the September 14, 2004 restriction requirement. Applicant reserves the right to prosecute claims 75-78 in the future, but withdraws these claims as being directed to non-elected subject matter.

Applicants thank the Examiner for helpful discussions March 4, 2005, and March 30, 2005. Applicants understand that the Examiner has written the Interview Summary and no further summary is required by Applicants.

## **SUPPORT**

### Amendments to the Claims

Claims 1-33 and 68-74 and 79-83 are presently being examined. Claims 1, 6, 8, 10-12, 16, 18, 33, 41, 43, 45, 47, 57, 59-61, and 63-65 are amended. A spelling error has been corrected in Claim 18. Support for the amendments is found throughout the specification and drawings, for example: (i) at page 19, lines 13-16 for claim 8, 43, and 47; and (ii) at page at page 15, line 11 to page 17, line 12 for claims 1, 6, 10-12, 16, 33, 41, 45, 57, 59-61, 63-65. New claims 79-83 have been added. Support for the new claims is found throughout the specification and drawings, for example: (i) at page 15, lines 24-31, page 16, lines 15-17, and page 20, lines 11-12 for claim 79; (ii) at page at page 15, lines 24-31 for claim 80; (iii) at page

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19, lines 10-12, and page 8 lines 5-10 for claim 81; and (iv) at page 14, line 1 to page 15, line 24, page 14 formula VII, page 15, lines 16-24 for claims 82-83. No new matter has been added.

### **CLAIM REJECTIONS**

Claims 1-33, and 68-78 stand rejected under 35 U.S.C. § 112, first and second paragraphs, as allegedly being non-enabled, and indefinite, respectively. Applicants respectfully assert that all of the claims comply with 35 U.S.C. § 112, first and second paragraphs, and all of the claims are allowable.

#### **The Claims are Definite**

Claims 1-33, 68-78 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. Specifically, the Office action states that "enzyme-removable groups" reads on H or most anything, and that this is so indefinite as to be unsearchable. The Office Action further contends that claim 3 fails to further limit claim 1, and that claim 33 fails to indicate how the compound needs to be modified to be encompassed by "a modified coelenterazine compound." Applicants respectfully traverse each basis for this rejection set forth in the Office action, as follows:

First, regarding the term "enzyme-removable group", claims 1, 6, 10, 16 have been amended to recite that R<sup>11</sup>, R<sup>14</sup>, R<sup>15</sup>, and R<sup>16</sup> are "a protecting group that is removable by an enzyme". Support for this amendment is found throughout the specification, for example at page 15, line 11 to page 17, line 12. R<sup>11</sup>, R<sup>14</sup>, R<sup>15</sup>, and R<sup>16</sup> are illustrated in formulae XII, XIII and XIV as being attached to an oxygen atom of the coelenterazine, thereby being oxygen protecting groups. Protecting groups are well known to one skilled in the art. The specification, for example, cites at page 17, lines 11-12, the book "Protective Groups in Organic Synthesis." Eds. Greene, Wuts; John Wiley and Sons, New York, 1991.

Groups removable by an enzyme are also well known to one skilled in the art. The specification, for example, at page 16, lines 2-5 cites literature references

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including, US Patent 5,831,102, as well as Tsien, R. Y. *Nature*, 290: 527-28, 1981; Redden, P. R. *et al.*, *Int J Pharm*, 180: 151-60, 1999; and Annaert, P. *et al.*, *Pharmaceut Res*, 14: 492-96, 1997. As such, a protecting group that is removable by an enzyme would be understood by one skilled in the art.

As the Examiner's position, as presented in the April 1, 2005 Office Action, is that R<sup>11</sup>, R<sup>14</sup>, R<sup>15</sup>, and R<sup>16</sup> each read on H, Applicants respectfully request that he provide evidence that a skilled artisan would consider H to be a protecting group for an oxygen atom.

Regarding the alleged unsearchability, Applicant's respectfully recite MPEP 2173.04:

Breadth of a claim is not to be equated with indefiniteness...If the scope of the subject matter embraced by the claims is clear, and if applicants have not otherwise indicated that they intend the invention to be of a scope different from that defined in the claims, then the claims comply with 35 U.S.C. 112, second paragraph.....

Even if the Examiner's position is R<sup>11</sup>, R<sup>14</sup>, R<sup>15</sup>, and R<sup>16</sup> each read on H as well as most any compound, formulae XII, XIII, and XIV clearly illustrate structure which is searchable. Furthermore, dependent claims 3, 4, 5, 8, 9, 14, 15, 17 and 18 further modify the R<sup>11</sup>, R<sup>14</sup>, R<sup>15</sup>, and R<sup>16</sup> with structure. Applicants respectfully request that a search be conducted and that each and every claim be considered.

Second, regarding claim 3 allegedly failing to further limit claim 1, Applicants respectfully refer to the February 4, 2005 response where amended claim 3 was presented with argument. To summarize, claim 1 recites "R<sup>11</sup>, R<sup>14</sup>, and R<sup>15</sup> are each independently a protecting group that is removable by an enzyme". Claim 3 recites "-OR<sup>11</sup>, -OR<sup>14</sup>, and -OR<sup>15</sup> are each independently esters". Claim 3 further limits the protecting group of claim 1 to esters, which can be removed, for example, by an esterase. No response to Applicant's argument was presented in the April 1, 2005 Office action. Applicants respectfully request that the rejection be withdrawn, or that a response be presented.

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Third, the rejection of claim 33 has been obviated by appropriate amendment. Claim 33 has been amended to recite:

A protected luminophore, which is  
a protected coelenterazine that includes an imidazolone  
oxygen protected with a protecting group that is removable by an  
enzyme;  
wherein the protecting group together with the  
imidazolone oxygen to which it is attached, form an ester or an  
ether;  
wherein subsequent removal of said protecting group  
provides a parent coelenterazine; and  
wherein the time necessary for the concentration of the  
protected coelenterazine in a mixture comprising F12 medium  
and 10% fetal bovine serum at 22°C to be reduced by 50% is  
greater than the time necessary for the concentration of the  
parent coelenterazine in a mixture comprising F12 medium and  
10% fetal bovine serum at 22°C to be reduced by 50%.

Support for this amendment is found throughout the specification, for example, at page at page 15, line 11 to page 17, line 12. As recited in claim 33, the protected coelenterazine includes a protecting group on the imidazolone oxygen; the protecting group together with the imidazolone oxygen forming an ether or ester functionality. Removal of the protecting group from the imidazolone oxygen affords the parent coelenterazine. Applicants respectfully request that the rejection of claim 33 be withdrawn.

In view of the discussion presented herein above, applicants respectfully assert that the claims meet the requirements of 35 U.S.C. § 112, second paragraph, and request that this section 112 rejection be withdrawn.

**The Claims are Enabled**

Claims 1-33, 68-78 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office Action states that "the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention."

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Detailed examples of how to make embodiments of the claimed invention, which in no way limit the subject matter claimed, are described in Examples 1-8. Example 9 provides an example of how to use certain embodiments of the claimed invention. While these examples are non-limiting, they are provided to demonstrate aspects of the invention.

Applicants respectfully recite MPEP 2164.04, last paragraph:


If a rejection is made based on the view that the enablement is not commensurate in scope with the claim, the examiner should identify the subject matter that is considered to be enabled.

Applicants hereby request that the subject matter considered to be enabled for each claim be identified, and request that rejection under 35 U.S.C. § 112, first paragraph be withdrawn unless and until such information is provided.

## **CONCLUSION**

Applicants believe that currently pending Claims 1-33, 68-74, and 79-83 are patentable. Applicants respectfully request that the Examiner grant early allowance of this application. The Examiner is invited to contact the undersigned agent for the applicants via telephone if such communication would expedite this application.

Respectfully submitted,

  
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